Table of Contents

Foreword

Preface

Acknowledgment

Section 1

Chapter 1
Laser Additive Manufacturing
   *Rasheedat Modupe Mahamood, University of Johannesburg, South Africa*
   *Esther Titilayo Akinlabi, University of Johannesburg, South Africa*

Chapter 2
Laser Based Manufacturing Processes for Aerospace Applications
   *Panos Stavropoulos, Hellenic Air Force Academy, Athens*
   *Angelos Koutsomichalis, Hellenic Air Force Academy, Athens*
   *Nikos Vaxevanidis, School of Pedagogical and Technological Education, Athens*

Chapter 3
Laser metal deposition process
   *Rasheedat Modupe Mahamood, University of Johannesburg, South Africa*

Chapter 4
Enhancement of surface integrity of titanium alloy with copper by means of laser metal deposition process
   *Mutiu F Erinosho, University of Johannesburg, South Africa*
   *Esther Titilayo Akinlabi, University of Johannesburg, South Africa*
   *Sisa Lesley Pityana, Centre for Scientific and Industrial Research-National Laser Centre, South Africa*

Chapter 5
Trend and Development in Laser Surface Modification for Enhanced Materials Properties
   *Muhammed Olawale Hakeem Amuda, University of Johannesburg, South Africa*
   *Esther Titilayo Akinlabi, University of Johannesburg, South Africa*

Chapter 6
Laser Surface Processing for Tailoring the Properties of Microstructural Optimization
   *Prof Dutta J Majumdar, University of Karagpur, India*
   *Andreas Weisheit, Fraunhofer-Institut für Lasertechnik ILT*
   *Indranil Manna, Indian Institute of Technology Kanpur, India*

Chapter 7
Mitigation of Wear Damage by Laser Surface Alloying Technique

Isaac Adebiyi, Tshwane University of Technology
Patricia Popoola, Tshwane University of Technology, South Africa
Sisa Lesley Pityana, Centre for Scientific and Industrial Research-National Laser Centre, South Africa

Chapter 8

Computational Dynamics of Laser Alloyed Metallic Materials for Improved Corrosion Performance:
Olawale Samuel Fatoba, Tshwane University of Technology
Abimbola Patricia Idowu Popoola, Tshwane University of Technology, South Africa
Gabriel Ayokunle Farotade, Tshwane University of Technology, South Africa
Sisa Lesley Pityana, Centre for Scientific and Industrial Research-National Laser Centre, South Africa

Chapter 9

Laser additive manufacturing of titanium based implants - A review
Martin Ruthandi Maina, Jomo Kenyatta University of Agriculture and Technology, Kenya

Compilation of References

About the Contributors

Index